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along the shore. Ships leaving the river Hooghly in the latter part of July and the beginning of August regularly made it a point to keep close to the west shore, where they got, not only good smooth water, but a strong current setting southward. It was, therefore, a mistake to suppose that during the south-west monsoon a steady current set in in the direction indicated.

MR. R. SAUNDERS considered Lieut. Heathcote's paper to be framed more on imaginary views than on sound practical data. So well understood were the currents in the Bay of Bengal, that few shipwrecks happen on its shores; and when they had occurred, in his experience since 1829, he never remembered an instance in which fault was traceable to undefined currents.

DR. HODGKIN thought it would interest the meeting to be reminded, that it was the mutual action of large oceanic currents, in the Eastern Seas, that led the late Dr. Young to the explanation of the phenomena due to interferences of the undulations of light. He considered there was some reason to doubt an opinion of the gentlemen who had addressed them, that the large rivers flowing into the head of the Bay of Bengal exercised an important influence on its currents. In illustration of his objection, he would remark that a friend of his had an idea, many years ago, that it would be possible to propel vessels through the sea by forcing a stream of water from their sterns, on the same simple principle that rockets are propelled through the air. His friend tried the experiment; but found the method wholly unsuccessful, in consequence of an immediate diffusion of the expelled current of water through that in which the vessel floated. Now it appeared to him that a diffusion of the same nature would very likely take place, when a river poured its waters into the sea, and that no defined current of any considerable length was likely to be caused by it.

LIEUT. HEATHCOTE, in reply, doubted if his statement had been clearly understood either by Mr. Duncan or Mr. Saunders.

3. *Notes of a Visit to the Elburz Mountains and ascent of Demavend.*

By R. G. WATSON, Esq.

ON July 23rd, the party consisting of the Prussian minister at Teheran; Dr. Brugsehes, the secretary to the mission; Dr. Dolmaye, of the Teheran college; and three other gentlemen including the author, with six guides, started on this expedition. They left the neighbourhood of Teheran, and reached Abigarm, the last village on the way to the mountain, on the evening of the 26th, where they met Captain Nicholas and another French officer, who had recently attempted an ascent. M. Nicholas considered he had arrived within 300 or 400 feet of the crater. They encamped on the 24th in the valley of the Lar, where one of the party caught 199 trout after eight hours' fishing. On the 27th they pitched their tents at the termination of the regular path towards Demavend, at a place where herdsmen have piled stones in circles, and where water boiled at 189° when the air was at 60°. The valley through which they had passed was clothed with magnificent scarlet poppies and thistles, and other plants not so familiar to English eyes. A day was lost at the encampment in a vain endeavour to repair an injured barometer, and on the 29th the ascent began. The horses had to be left after an hour, when the first snow was reached; then

came two hours of loose stones; then (apparently) one and a half hour of bare rock, too steep for the snow to lie on; and here, within twenty minutes of a cliff of rock, which shut out further view, they found many matches and pieces of paper, and a guide told them that it was the highest point to which M. Nicholas had ascended. On reaching the cliff of rock, the guides wished to make them believe they were close to the summit, and that it was impossible, at that early season of the year, to proceed higher: and they were nearly returning, as M. Nicholas did, under that belief. However, Dr. Dolmaye pushed forward across an incline of snow to the left, where he fell, but checked himself after a few yards of descent with the help of his alpenstock. Five of the party with five guides crossed the incline safely; the remaining gentleman could not proceed further, and was left with a guide. Then came a still steeper snow slope, up which they had to scramble, and for which ropes ought to have been provided, for there was one especially awkward corner which had to be turned, and there was no visible termination, through the mists below, to the steep incline of snow, over which they had to pass. An hour after, another mass of snow was crossed, then the clouds were surmounted and the lovely peak of Demavend stood clearly above in full sunshine, giving to the sulphur, with which it was covered, the appearance of pale gold. They pushed on quickly through the snow and sulphur, and reached the edge of the crater which forms the summit of the mountain. The crater appeared about 40 or 50 feet in diameter; it was thickly covered with snow, and of no great depth. The cold was so great, and the view so entirely obscured with clouds, that they contented themselves with a very short stay, and went to a cave 50 or 60 feet below the summit, where they tried to light a fire in order to take the temperature of boiling water, for they had no barometer. It was then half-past twelve o'clock. They had been seven and a half hours from their starting point, in reaching the summit of the mountain, and had walked for nearly three hours from the spot where M. Nicholas had been told that he was within 400 feet of the crater. The ground outside the little cavern was so hot from volcanic heat, that it was necessary to change seats every few minutes; and it was impossible not to expect that some day the mountain might pour forth its smothered flames.

The cave was filled with fumes of sulphur, and it took the party an hour and a half to make the water boil, though paper, matches, cotton, wood, charcoal, and spirits of wine were used in abundance. [The results are, as might be expected, discordant. The average of six observations was $177^{\circ}.3$ Fahr., and the interval between the extremes was $4^{\circ}.5$, representing more than 2000 feet of altitude; but if the *highest* observed temperature be taken, viz. $179^{\circ}.8$, as probably

the only case in which the water was boiling satisfactorily, the results are nearly accordant with the triangulated measurements (see Anniversary Address, 1861, p. 194). The temperature of the external air was 41° , and assuming the sea-level temperature at 74° , and the sea-level barometer at 30.00, we obtain the altitude of 18,865 feet for the summit of Demavend, against the 18,550 of the Russian survey.—F. G.] The party returned with great speed, glissading down the snow, and reached their tents in two hours.

MR. MARSHALL said he was not acquainted immediately with the country of which this paper treated, but he had travelled in the neighbouring country of Daghestan, which formed the most eastern portion of the Caucasian range. At the foot of it lay the eastern part of Georgia, where some of the finest wine in the world was grown. There was no country where the people drank such quantities of it. He never saw such a drunken country in his life. It was quite impossible for any stranger to go there and hold his own among the people, unless he set to and drank hard like everybody else. The ladies assisted at these drinking bouts, though they did not drink themselves. Rising above the plain of Georgia were the Caucasus Mountains. They were well-wooded, ranging at what he would roughly estimate at 10,000 feet in height. Comparing them with Switzerland, which was perhaps the best-known mountainous country to Englishmen, instead of pines they were clothed with birch, beech, and such like forest-trees, which gave to the mountains a much more varied and picturesque appearance than the pines. They differ from the mountains of Switzerland in other respects, and especially in the rarity of glaciers, which was partly due to the formation of the mountains not admitting of hollow slopes for the snow to repose in. The inhabitants of the country were rude and uncivilised and still very savage in their habits. It was only some three or four years since that Schamyl—for this was his country—was taken prisoner. The men were not handsome, and the women were decidedly the reverse. As an instance of the way in which they conduct their quarrels, he stated that it was the custom when a man was murdered to erect over his grave a kind of flagstaff, where it remained until his murder had been avenged by his friends, and in almost every village graveyard he saw poles of this kind standing. Before he reached the country he was told he should have the greatest difficulty in penetrating it, owing to the jealousy of Russian officials. So far from this being the case, he was bound to acknowledge that he should not have been able to travel in the country but for the escorts and horses provided by the Russians, from whom he experienced the greatest courtesy and civility.

GENERAL MONTEITH said Mount Ararat still held its position as the highest mountain in that part of Asia. It was close upon 19,000 feet high, and had a direct rise of 16,000 feet from the plain in which it stood, presenting a magnificent appearance from the unintercepted view which the spectator had of it. He attempted the ascent when he was there, but failed in consequence of coming upon some glaciers 50 or 60 feet high, and abounding in fissures which it was useless attempting to cross.

THE CHAIRMAN, in closing the sitting, said they must not judge of the value or interest of the paper on Demavend, by the comparative absence of remarks made upon it. It was only very recently that this chain of mountains had come under their special observation. They had records of it many years ago, but the close observation now bestowed upon it was only of recent origin.